Claims

What is claimed is:

1. An apparatus comprising:

a p-channel metal oxide semiconductor (PMOS) transistor having a first drain and further having a first source connected to a first load at an output node, the first load having another connection to a first voltage reference; and

an n-channel metal oxide semiconductor (NMOS) transistor having a second drain connected to the first drain of the PMOS transistor at a feedback node, the NMOS transistor having a second source connected to a second load, the second load having another connection to a second voltage reference,

wherein the first gate of the PMOS transistor and the second gate of the NMOS transistor are connected to a coupling capacitor, the coupling capacitor receiving radio frequency input signals and wherein the first gate and second gate receive a feedback from the feedback node.

2. The apparatus of claim 1, wherein the first load is a resistor.

3. The apparatus of claim 1, wherein the first load is a transistor.

4. The apparatus of claim 1, wherein the second load is a resistor.

5. The apparatus of claim 1 wherein the second load is a transistor.

6. The apparatus of claim 1, wherein the feedback comprises a signal passing through a third load.

7. The apparatus of claim 6, wherein the third load is a resistor.

8. The apparatus of claim 6, wherein the third load is a transistor.

9. The apparatus of claim 1, wherein the PMOS transistor and NMOS transistor are complementary metal oxide semiconductor (CMOS) transistors.

10. The apparatus of claim 1, wherein the first voltage reference is a positive supply voltage and the second voltage reference is a ground.

11. The apparatus of claim 1, wherein: the PMOS transistor and NMOS transistor are complementary metal oxide semiconductor (CMOS) transistors; the feedback includes a third load; the first load, second load, and third load are resistor-connected transistors; and the PMOS transistor, NMOS transistor, first load, second load, and third load are fabricated in an integrated circuit.

12. The apparatus of claim 11, wherein the first voltage reference is a positive supply voltage and the second voltage reference is a ground.

13. An apparatus, comprising:

a microphone connected to a controller;

a receiver connected to the controller; and

an antenna connected to communication electronics, the communication electronics connected to the controller and comprising:

a p-channel metal oxide semiconductor (PMOS) transistor having a first drain and further having a first source connected to a first load at an output node, the first load having another connection to a first voltage reference; and

an n-channel metal oxide semiconductor (NMOS) transistor having a second drain connected to the first drain of the PMOS transistor at a

feedback node, the NMOS transistor having a second source connected to a second load, the second load having another connection to a second voltage reference,

wherein the first gate of the PMOS transistor and the second gate of the NMOS transistor are connected to a coupling capacitor, the coupling capacitor receiving radio frequency input signals and wherein the first gate and second gate receive a feedback from the feedback node.

14. The apparatus of claim 13, wherein: the PMOS transistor and NMOS transistor are complementary metal oxide semiconductor (CMOS) transistors; the feedback includes a third load; the first load, second load, and third load are resistor-connected transistors; and the PMOS transistor, NMOS transistor, first load, second load, and third load are fabricated in an integrated circuit.

15. The apparatus of claim 14, wherein the first voltage reference is a positive supply voltage and the second voltage reference is a ground.

16. An apparatus, comprising:

a memory connected to a controller;

an input device connected to the controller; and

an antenna connected to communication electronics, the communication electronics connected to the controller and comprising:

a p-channel metal oxide semiconductor (PMOS) transistor having a first drain and further having a first source connected to a first load at an output node, the first load having another connection to a first voltage reference; and

an n-channel metal oxide semiconductor (NMOS) transistor having a second drain connected to the first drain of the PMOS transistor at a feedback node, the NMOS transistor having a second source connected to a

second load, the second load having another connection to a second voltage reference,

wherein the first gate of the PMOS transistor and the second gate of the NMOS transistor are connected to a coupling capacitor, the coupling capacitor receiving radio frequency input signals and wherein the first gate and second gate receive a feedback from the feedback node.

17. The apparatus of claim 16, wherein: the PMOS transistor and NMOS transistor are complementary metal oxide semiconductor (CMOS) transistors; the feedback includes a third load; the first load, second load, and third load are resistor-connected transistors; and the PMOS transistor, NMOS transistor, first load, second load, and third load are fabricated in an integrated circuit.

18. The apparatus of claim 17, wherein the first voltage reference is a positive supply voltage and the second voltage reference is a ground.

19. A method, comprising:

receiving an amplitude modulated signal;

processing the amplitude modulated signal with a capacitively coupled demodulator comprising a totem pole configuration of complementary metal oxide semiconductor transistors including a feedback signal to generate a demodulated signal.

20. The method of claim 19, wherein the step of receiving comprises filtering the amplitude modulated signal.